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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/642,910	08/18/2003	David A. Cathey	4250.1US (97-0357.01/US)	3191
24247	7590	01/18/2007		
TRASK BRITT P.O. BOX 2550 SALT LAKE CITY, UT 84110			EXAMINER LEE, BENJAMIN C	
			ART UNIT	PAPER NUMBER
			2612	
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		01/18/2007	PAPER	

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

# Office Action Summary

Application No.

10/642,910

Applicant(s)

CATHEY, DAVID A.

Examiner

Benjamin C. Lee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 12/21/06.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_

## RESPONSE TO AMENDMENT

### Claim Status

1. Amended claims 1-23 are pending.

### *Claim Rejections - 35 USC § 103*

2. Amended claims 1-23 are rejected under 35 U.S.C. 103(a) as being obvious over Lastinger (US pat. #6,104,311) in view of Lilly et al. (US pat. #5,777,581) and Ishikawa et al. (US pat. #5,408,690).

#### 1) Regarding claim 1:

Lastinger discloses the claimed radio frequency communication device (RFID tag/transponder according to Figs. 2, 6 and 14; col. 1, lines 21-61; col. 6, line 31 and col. 7 lines 26-31) comprising: internal circuitry (26); at least one antenna (24) coupled to the internal circuitry; and at least one antenna segment coupled to the at least one antenna by a fuse (Figs. 6 and 14 each shows antenna 24 comprising plural segments parallel or serially connected by fuses 30 to form the final antenna.); except: the claimed wherein the at least one antenna is coupled to the internal circuitry FOR (i.e. for the purpose or intended use of) evaluating an antenna response to at least one test signal from the at least one antenna to do one of accepting the RF communication device, rejecting the RF communication device, coupling an antenna segment to the antenna, and detaching an antenna segment from the antenna.

While Lastinger discloses the claimed adding (by a fuse 30) and subtracting (by an anti-fuse 30) antenna segments to the antenna of an RF communication device to obtain desired antenna characteristics in the RF communication device without specifying the particular claimed purpose, Lilly et al. teaches the known adding and subtracting (by switches) of antenna

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segments to the RF antenna for the purpose of testing and fine tuning the antenna characteristics of the RF antenna (col. 8, lines 40-59; Abstract; Figs. 5, 12, 16-17 and 23), and Ishikawa et al. teaches the known testing and evaluating the performance characteristics of an antenna coupled to the evaluating circuitry of an RF communication device by evaluating the antenna response to a test signal (see figures; Abstract).

In view of the teachings by Lastinger, Lilly et al. and Ishikawa et al., it would have been obvious to one of ordinary skill in the art at the time of the claimed invention that in order to determine whether the antenna in Lastinger needs any tuning (addition/subtraction of antenna segments) and the amount of tuning to provide the desired antenna characteristics, the antenna characteristics first need to be tested and evaluated to determine the discrepancy or the amount of tuning needed such as suggested by Lilly et al., and to perform such testing and evaluating through coupling the antenna to the evaluating circuitry of the RF communication device as taught by Ishikawa et al.

2) Regarding claim 2, Lastinger, Lilly et al. and Ishikawa et al. render obvious all of the claimed subject matter as in claim 1, including: the claimed plurality of antenna segments coupled by fuses (30) in series with the at least one antenna segment (Fig. 14 of Lastinger.)

3) Regarding claim 3, Lastinger, Lilly et al. and Ishikawa et al. render obvious all of the claimed subject matter as in claim 1, including: the claimed wherein the at least one antenna segment comprises a plurality of antenna segments, each coupled to the at least one antenna in parallel (Fig. 6 of Lastinger) by a fuse (30 of Lastinger).

4) Regarding claim 4, Lastinger, Lilly et al. and Ishikawa et al. render obvious all of the claimed subject matter as in claim 1, including: the claimed wherein the at least one antenna

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comprises at least two antennas (Fig. 2 of Lastinger showing RFID tag that uses 2 antennas), each coupled to at least one antenna segment by a fuse (Fig. 14, whereby col. 10, lines 1-5 indicated that the embodiment of Figs. 2 and 14 are combinable: "The selectable connections NEED NOT be ONLY between the code circuits and the antennas..." in Lastinger)

5) Regarding claim 5, Lastinger, Lilly et al. and Ishikawa et al. render obvious all of the claimed subject matter as in claim 1, including: the claimed wherein the radio frequency communication device is a radio frequency identification tag (col. 6, line 31 of Lastinger).

6) Regarding claim 6, Lastinger, Lilly et al. and Ishikawa et al. render obvious all of the claimed subject matter as in claim 1, including: the claimed wherein the internal circuitry comprises at least one of a sleep circuit, a wake-up circuit, a receiver, a transmitter, control logic, memory and at least one battery (col. 1, lines 5-61 which discloses receiver on line 18, transmitter on line 20, memory on line 37, control logic on line 59 in Lastinger.)

7) Regarding claim 7, Lastinger, Lilly et al. and Ishikawa et al. render obvious all of the claimed subject matter as in claim 1, including: the claimed further comprising at least one other antenna segment associated with the at least one antenna through an antifuse (col. 6, lines 52-55; col. 10, lines 1-11, whereby 30 to be "filled in" as defined constitutes a fuse and 30 to be "punched through" as defined constitutes an antifuse with respect to the plural antenna segments and antenna in Lastinger.)

8) Regarding claim 8, Lastinger, Lilly et al. and Ishikawa et al. render obvious all of the claimed subject matter as in claim 7, including: the claimed comprising a plurality of other antenna segments associated in series with the at least one antenna segment and connected through a plurality of antifuses (Fig. 14 and col. 10, lines 1-11.)

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9) Regarding claim 9, Lastinger, Lilly et al. and Ishikawa et al. render obvious all of the claimed subject matter as in claim 7, including: the claimed wherein the at least one other antenna segment comprises a plurality of antenna segments each associated with the at least one antenna in parallel through an antifuse (Fig. 6 of Lastinger and “antifuse” considered in claim 7.)

10) Regarding claim 10, Lastinger, Lilly et al. and Ishikawa et al. render obvious all of the claimed subject matter as in the consideration of claims 1 and 7.

11) Regarding claim 11, Lastinger, Lilly et al. and Ishikawa et al. render obvious all of the claimed subject matter as in claim 10, including: the claimed further comprising a plurality of antenna segments associated in series with the at least one antenna segment through a plurality of antifuses (Fig. 14 and col. 10, lines 1-11 of Lastinger; consideration of claim 8.)

12) Regarding claim 12, Lastinger, Lilly et al. and Ishikawa et al. render obvious all of the claimed subject matter as in claim 10, including: the claimed wherein the at least one antenna segment comprises a plurality of antenna segments, each associated with the at least one antenna in parallel through an antifuse (Fig. 6 of Lastinger as considered in claim 9.)

13) Regarding claim 13, Lastinger, Lilly et al. and Ishikawa et al. render obvious all of the claimed subject matter as in claim 10, including: the claimed wherein the at least one antenna comprises at least two antennas, each associated with at least one antenna segment through an antifuse (as considered in claim 4.)

14) Regarding claim 14, Lastinger, Lilly et al. and Ishikawa et al. render obvious all of the claimed subject matter as in claim 10, including: the claimed wherein the radio frequency communication device is a radio frequency identification tag (as considered in claim 5.)

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15) Regarding claim 15, Lastinger, Lilly et al. and Ishikawa et al. render obvious all of the claimed subject matter as in claim 10, including: the claimed wherein the internal circuitry comprises at least one of a sleep circuit, a wake-up circuit, a receiver, a transmitter, control logic, memory and at least one battery (as considered in claim 6.)

16) Regarding claims 16-17, Lastinger, Lilly et al. and Ishikawa et al. render obvious all of the claimed subject matter as in the consideration of claims 1, 5 and 7, including: the claimed radio frequency communication system comprising at least one of a transmitter, a receiver, a processor, an input device, an output device, data storage, and memory (inherent of the reader/interrogator for communicating with the RFID tag of Lastinger), the system further comprising at least one radio frequency identification tag associated therewith, the radio frequency identification tag comprising internal circuitry coupled to an antenna for evaluating an antenna response to at least one test signal to do one of the claimed tasks (as considered in claim 1), the antenna including at least one antenna segment associated therewith through at least one of a fuse and an antifuse, wherein the antenna includes at least one antenna segment associated therewith through each of the fuse and the antifuse (as considered in claims 5 and 7.)

17) Regarding claim 18, Lastinger, Lilly et al. and Ishikawa et al. render obvious all of the claimed subject matter as in claim 16, including: the claimed wherein the at least one antenna segment is associated with the antenna in series (as considered in claim 8.)

18) Regarding claim 19, Lastinger, Lilly et al. and Ishikawa et al. render obvious all of the claimed subject matter as in claim 16, including: the claimed wherein the at least one antenna segment is associated with the antenna in parallel (as considered in claim 9.)

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19) Regarding claim 20, Lastinger, Lilly et al. and Ishikawa et al. render obvious all of the claimed subject matter as in claim 16, including: the claimed wherein the at least one antenna segment comprises a plurality of antenna segments coupled in series by a plurality of fuses (as considered in claim 2.)

20) Regarding claim 21, Lastinger, Lilly et al. and Ishikawa et al. render obvious all of the claimed subject matter as in claim 16, including: the claimed wherein the at least one antenna segment comprises a plurality of antenna segments associated in series through a plurality of antifuses (as considered in claim 11.)

21) Regarding claim 22, Lastinger, Lilly et al. and Ishikawa et al. render obvious all of the claimed subject matter, including: the claimed method of forming an antenna for a radio frequency communication device, the method comprising: forming an antenna and a plurality of antenna segments on a substrate (col. 3, line 52 of Lastinger); and associating the plurality of antenna segments in series or in parallel with the antenna by forming at least one of a fuse and an antifuse there-between (as considered in claim 7 or claim 16); evaluating an antenna response to at least one test signal and in response doing one of the claimed steps (as considered in claim 1).

22) Regarding claim 23, Lastinger, Lilly et al. and Ishikawa et al. render obvious all of the claimed subject matter as in claim 22, including: the claimed wherein forming the antenna and the antenna segments on the substrate comprises forming the antenna and the antenna segments on a semiconductor substrate (col. 3, lines 47-53 of Lastinger, whereby the whole tag including the antenna having antenna segments and the RFID tag circuitry are formed on the substrate, and since the substrate supports RFID tag circuitry which typically and inherently



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include IC or integrated circuit semiconductor circuit components, the substrate constitutes a semiconductor substrate.)

***Response to Arguments***

3. Applicant's arguments filed have been fully considered but they are not persuasive.

Applicant's arguments are directed to claims 1-23 as amended on 8/8/06, which have been rejected under new grounds of rejection using additional prior art references. See above rejection for detail. The new grounds of rejection are necessitated by amendment on 8/8/06. New reference of Ishikawa et al. has been used in place of Meredith in response to Applicant's arguments filed 12/21/06.

In conclusion, Applicant's arguments are not deemed persuasive, and the above rejection is maintained.

***Conclusion***

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US patents 6005891, 5564086: Similar RF device antenna testing/evaluating feature connected to antenna.

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period


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will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Benjamin C. Lee whose telephone number is (571) 272-2963. The examiner can normally be reached on Mon -Thu 11:00Am-7:30Pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel Wu can be reached on (571) 272-2964. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Benjamin C. Lee  
Primary Examiner  
Art Unit 2612

B.L.